

teachings of *Rutenberg* to a single, specific one of these claims. Applicants further note that the Examiner has alleged obviousness of claims 1, 3, 4, 27, 31, 32, 34, 38, 39 and 66-68, in paragraph 4 of the Office Action, without applying the teachings of *Rutenberg* in view of *Dino*, *Harris*, and Applicants' specification to a single, specific one of these claims. The specific limitations of these claims to which the Examiner's allegations in paragraphs 3 and 4 apply are not clear to Applicants, and the same applies for the Examiner's allegations in paragraph 5 of the Office Action. Therefore, the Applicants respectfully request that the Examiner identify the specific limitations of the claims to which the allegations of paragraphs 3, 4, and 5 of the Office Action respectively apply.

4. Applicants respectfully traverse the Examiner's § 103 rejections of independent claims 1, 2, 27, 34, 41, 50, 58 and 66 as being allegedly unpatentable over *Rutenberg*. Applicants submit that, contrary to MPEP § 2143, the Examiner has failed to make out a *prima facie* case of obviousness in rejecting independent claims 1, 2, 27, 34, 41, 50, 58 and 66 in that: (1) the Examiner has failed to cite references that teach or suggest all of the elements recited in the rejected claims, and (2) the Examiner has failed to articulate a motivation to combine the references to arrive at the claimed invention.

Each of independent claims 1, 2, 27, 34, 41, 50, 58 and 66 recite that the guar splits are subjected to both an extrusion step and a flaking step during processing. For example, independent claim 1 recites "processing the hydrated splits, said processing step including the substeps, in either order, of ***flaking the splits and extruding the splits***" (emphasis added). Independent claims 2, 27, 34, 41, 50, 58, and 66 have similar recitations. Thus, each of these claims requires the limitations of both ***extruding and flaking***. On page 4 of the CPA, in various illustrative embodiments, the Applicants state that advantages of both ***extruding and flaking*** "include (1) increasing the hydration rate and hydration acceleration rate of the guar gum powder without any corresponding change in particle size, and (2) providing a hydration acceleration rate that is less affected by cold temperatures."

Nothing in *Rutenberg* teaches or suggests this processing of the hydrated splits, the processing step including the substeps, in either order, of ***flaking the splits and extruding the splits***, as recited in claims 1, 2, 27, 34, 41, 50, 58 and 66. The Examiner acknowledges on page 3

of the Office Action that “*Rutenberg* differs from the present invention in that the use of both flaking and extruding, in the preparation of the ground guar is not disclosed.” Applicants agree with the Examiner on this point. However, the Examiner proceeds to allege that this limitation would be obvious in view of *Rutenberg* because “combining such methods would not be patentable, since it would logically flow that the combination would produce the **same** effect, and would **supplement** each other” (emphasis added). On this point, Applicants respectfully disagree.

Rutenberg primarily teaches the use of extruding the guar splits prior to the grinding of the guar splits (col. 6, lines 13-18). *Rutenberg* does not disclose or even suggest **both extruding and flaking** the guar splits. Moreover, *Rutenberg* actually teaches away from **both extruding and flaking** the guar splits by downplaying the effectiveness of the *flaking* step. For instance, in Example II, *Rutenberg* compares the viscosity of guar gums prepared by *extruding* the guar splits prior to grinding with the viscosity of guar gums prepared by *flaking* the guar splits prior to grinding the guar splits (col. 5, line 67–col. 6, line 2; col. 6, lines 22-68). “The results show that, although the use of flattening (*flaker*) rolls gives a gum with higher viscosity-producing properties than gum prepared without the flattening rolls, **the use of an extruder under the same operational conditions gives gums with much higher viscosity-producing properties**” (col. 7, lines 15-20) (emphasis added).

The Office attempts to supplement *Rutenberg* by citing *In re Crockett*, 126 USPQ 186. However, the facts of *In re Crockett* are readily distinguishable from those of the present application. The prior art references at issue in *In re Crockett* “clearly teach that **both** magnesium oxide and calcium carbide, **individually**, promote the formation of a nodular structure in cast iron, and it would be natural to suppose that, **in combination**, they would produce **the same effect** and would **supplement each other**.” *In re Crockett*, 126 USPQ 186, 188 (emphasis added). “Even assuming, as appellant alleges to be the case, that the two together produce an effect somewhat greater than the sum of their separate effects, we feel that **the idea of combining them** would **flow logically from the teaching of the prior art** and therefore that a claim to their joint use is not patentable. *In re Heinrich*, 46 CCPA 933, 268 F.2d 753, 122 USPQ 388, **and cases there cited**.” *In re Crockett*, 126 USPQ 186, 188 (emphasis added). Moreover, *In re Heinrich*, and the cases cited there, namely, *In re Kepler*, 30 CCPA 726, 132 F.2d 130, 56

USPQ 177, and *In re Busch*, 45 CCPA 766, 251 F.2d 617, 116 USPQ 413, all stand for the proposition that a “patent should not be granted for appellant’s discovery of a result that would **flow naturally from the teachings of the prior art.**” *In re Kepler*, 56 USPQ 177, 180 (emphasis added).

Unlike the prior art references at issue in *In re Crockett*, *Rutenberg* clearly teaches that “although the use of flattening (*flaker*) rolls gives a gum with higher viscosity-producing properties than gum prepared without the flattening rolls, **the use of an extruder under the same operational conditions gives gums with much higher viscosity-producing properties**” (col. 7, lines 15-20) (emphasis added). Therefore, *Rutenberg* clearly teaches that **extruding, under the same operational conditions, does not give the same results as flaking**. Consequently, to one of ordinary skill in the art, referring to nothing other than the teachings of *Rutenberg*, and without having the benefit of impermissible hindsight reconstruction based on the teachings of the present application, it would **not** be natural to suppose that, **in combination, flaking and extruding**, in either order, would produce **the same effect** and would **supplement each other, nor would the idea of combining flaking and extruding**, in either order, **flow logically from the teaching of the prior art**. Instead, to one of ordinary skill in the art, *Rutenberg* strongly teaches that **extruding is far more preferable than flaking**, and, thus, it would **flow logically from the teaching of Rutenberg only to extrude and not to flake at all**.

Furthermore, *Rutenberg* was directed towards a process for creating a guar gum powder having high viscosity-producing properties. As discussed above, *Rutenberg* discloses processes in which the guar splits are subjected to either an extrusion step or a flaking step during processing. Also as discussed above, *Rutenberg* went so far as to specify that the process utilizing the extrusion step produced a guar gum powder with viscosity-producing properties superior to those of the guar gum powder produced by the process using the flaking step instead of the extrusion step, and therefore the process utilizing the extrusion step was the preferred embodiment. (col. 7, lines 15-20). Thus, the specification of *Rutenberg* made it explicitly clear that the purpose of the invention was to create a guar gum powder having the highest viscosity-producing properties.

The present invention, as recited in claims 1, 2, 5-11, 27-30, 34-37, 41-66, 69 and 70, is directed towards a process that yields a guar gum powder having viscosity-producing properties

superior to those of either process disclosed by *Rutenberg*. Nowhere in *Rutenberg* is a process disclosed in which both the extrusion step and the flaking step are combined to create a guar gum powder with superior viscosity-producing properties. The relevance is inferential in the sense that the prior art's failure to reveal the claimed invention despite its advantageous qualities tends to confirm that it was unexpected and unobvious. It would be contrary to normal economic incentives for obvious, advantageous subject matter to remain dormant. See *Innovative Scuba Concepts Inc. v. Feder Industries Inc.*, 819 F. Supp. 1487, 1503, 27 USPQ2d 1254, 1262 (D. Colo. 1993) (citing Treatise). In other words, *Rutenberg*'s failure to realize the advantages of combining the extrusion and flaking steps to yield a guar gum with superior viscosity-producing properties, when viewed in light of its goal of producing a guar gum powder having the highest viscosity-producing properties, is another strong indication of the non-obviousness of the process of claims 1, 2, 27, 34, 41, 50, 58 and 66.

Applicants therefore respectfully submit that the Examiner has failed to articulate a *prima facie* case of obviousness in rejecting claims 1, 2, 27, 34, 41, 50, 58 and 66, as well as claims 5-11, 28-30, 35-37, 42-49, 51-57, 59-65 and 70 that depend therefrom, because, contrary to MPEP § 2143.03, the Examiner has failed to cite references that teach or suggest all of the elements recited in the rejected claims.

Further, it is respectfully submitted that it would not have been obvious to modify *Rutenberg* to arrive at the invention recited by claims 1, 2, 27, 34, 41, 50, 58 and 66. It is well-settled that a reference must provide some motivation or reason for one skilled in the art (working without the benefit of hindsight reconstruction using the applicants' specification) to make the necessary changes in the disclosed device or method. The mere fact that a reference may be modified in the direction of the claimed invention does not make the modification obvious unless the reference expressly or impliedly teaches or suggests the desirability of the modification. *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984); *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. App. 1985); *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. App. 1984). Indeed, the Federal Circuit stated:

... To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction--an illogical and inappropriate process by which to determine patentability. *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303,

312-13 (Fed. Cir. 1983). The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

Sensonics Inc. v. Aerosonic Corp., 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

Rutenberg fails to meet the basic requirement for a finding of obviousness established by the courts in *Sensonics*, *Gordon*, *Clapp*, and *Chicago Rawhide*. There is no suggestion in *Rutenberg* to modify the process disclosed therein in the direction of the present invention, nor is there any suggestion of the desirability of such modifications (*i.e.*, processing the hydrated splits, the processing step including the substeps, in either order, of **flaking the splits and extruding the splits**). In fact, *Rutenberg* actually **teaches away** from the inclusion of the flaking step in the process by downplaying the viscosity-enhancing effects of the flaking step. (col. 7, lines 15-20).

Thus, it is respectfully submitted that the ordinarily skilled artisan would have had no motivation to modify the references as suggested by the Office. Therefore, it is respectfully requested that the rejection of claims 1, 2, 27, 34, 41, 50, 58 and 66, and claims 5-11, 28-30, 35-37, 42-49, 51-57, 59-65 and 70 that depend therefrom, under 35 U.S.C. §103(a) be withdrawn.

5. Applicants respectfully traverse the Examiner's § 103 rejections of independent claims 1, 27, 34 and 66 as being allegedly unpatentable over *Rutenberg* in view of *Dino*, *Harris*, and Applicants' specification. Applicants submit that, contrary to MPEP § 2143, the Examiner has failed to make out a *prima facie* case of obviousness in rejecting independent claims 1, 27, 34 and 66 in that (1) the Examiner has failed to cite references that teach or suggest all of the elements recited in the rejected claims, and (2) the Examiner has failed to articulate a suggestion to combine the references with a reasonable expectation of success.

Applicants respectfully submit that *Rutenberg* does not teach or suggest the foregoing methods recited in claims 1, 27, 34 and 66 for all of the same reasons set forth in regard to such claims in paragraph 4 above. Moreover, contrary to MPEP §§ 2143.01 and 2143.02, the Examiner has failed to articulate a suggestion to combine *Rutenberg* with *Dino*, *Harris*, and Applicants' specification. The *prima facie* case of obviousness is thus yet further lacking.

Rutenberg discloses hydrating, extruding, and grinding guar splits to produce a guar gum (col. 6, lines 22-26). *Rutenberg* teaches that extruding the guar splits before grinding results in a guar gum with a higher viscosity than a guar gum produced by flaking the guar splits prior to grinding the guar splits (col. 5, line 65 – col. 6, lines 1-3; col. 7, lines 15-20). *Dino* teaches the use of reacting guar splits in a reactor with various chemicals to produce chemically altered guar products (col. 6, lines 5-28). *Harris* teaches the use of guar gum splits, water, and chemicals to form a gel comprising a chemically altered form of guar (col. 8, lines 35-38). Nothing in *Dino* and *Harris* teach, disclose, or even suggest improving the hydration rate and hydration acceleration rate of a guar gum powder by **extruding and flaking** the guar splits. Moreover, nothing in Applicants' present specification teaches, discloses, or even suggests that improving the hydration rate and hydration acceleration rate of a guar gum powder by **extruding and flaking** the guar splits was well known in the art at the time the present application was filed.

Accordingly, in view of the fact that the Examiner has failed to articulate a *prima facie* case of obviousness in respect of independent claims 1, 27, 34 and 66, Applicants respectfully request that the Examiner withdraw the § 103 rejection and allow independent claims 1, 27, 34 and 66. Since independent claims 1, 27, 34 and 66 are submitted to be allowable, dependent claims 3, 4, 31, 32, 38, 39, 67 and 68 must *a fortiori* also be allowable, since they carry with them all the limitations of the independent claims to which they ultimately refer.

6. Applicants note that in many places in the Office Action, including on page 3, lines 5-8, 10-11 and page 4, lines 13-19, the Examiner has used the Examiner's own personal knowledge in rejecting claims. Applicants object because this use of personal knowledge is unsupported by an affidavit setting forth the Examiner's data as specifically as possible, as required by Rule 104(d)(2). On pages 6 and 7 of the Office Action, the Examiner again states that an affidavit or declaration is not needed in view of the clear teaching of applicants specification, the prior art and the cited caselaw. As pointed out in paragraphs 4 and 5 above, it is not clear from the prior art and the prior art as cited by the Applicants' specification that it is obvious to increase the hydration rate and hydration acceleration rate of a guar powder by **extruding and flaking** the guar gum powder before grinding of the guar gum powder. **Therefore, Applicants request and insist that in the event that the Examiner continues to**

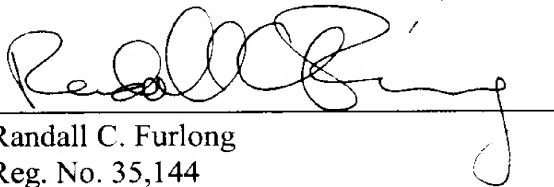
rely on this personal knowledge in examination of the Continuation Application, the Examiner enter into the record a supporting affidavit in accordance with Rule 104(d)(2), setting forth as specifically as possible all of data.

CONCLUSIONS

Applicants respectfully believe this reply to be fully responsive to all outstanding issues and to place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned or his associates at the telephone number listed below.

Respectfully submitted,

Date: 1/22/2003



Randall C. Furlong
Reg. No. 35,144
Vinson & Elkins L.L.P.
First City Tower, Suite 2300
1001 Fannin St.
Houston, TX 77002-6760

Telephone: (713) 758-4802
Facsimile: (713) 615-5114